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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,830	06/26/2003	Himansu M. Gajiwala	2507-5300.1US (21870-US-0)	7592
60794 7590 08/28/2007 TRASKBRITT, P.C./ ALLIANT TECH SYSTEMS P.O. BOX 2550 SALT LAKE CITY, UT 84110				
			EXAMINER RONESI, VICKEY M	
			ART UNIT 1714	PAPER NUMBER
			MAIL DATE 08/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/608,830

Applicant(s)

GAJIWALA, HIMANSU M.

Examiner

Vickey Ronesi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7, 14 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 14, 20, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/12/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding rejections are withdrawn in light of applicant's amendment filed on 6/12/2007.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.
3. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 6/12/2007. In particular, claims 7 and 14 have been amended to recite closed claim language "consisting of," to remove the ingredients ammonium polyphosphate, silica, and a curing agent and to add claim language "at least one flame retardant" and "sulfur." Thus, the following action is properly made final.

Election/Restrictions

4. Applicant's election with traverse of the restriction requirement in the reply filed on 6/12/2007 is acknowledged. The traversal is on the ground(s) that the insulation material of the withdrawn claims are also recited in the rocket motor and method of making a rocket motor claims. This is not found persuasive because the insulation material is in a rocket motor wherein the intermediate product (i.e., insulation material) is deemed to be useful in routine rubber applications including hoses, gaskets, cushions, etc (see paragraph 0037 of applicant's specification) and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants, i.e., it is not considered obvious to use a gasket material as insulation material in a rocket motor with an inner surface and a propellant.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

5. Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claims 23 and 24, the term “carbon black” fails to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the generic term “carbon black” in any amount in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. In the specification as originally filed, the only reference to carbon black N-330® is in Tables 1 and 8 on pages 10 and 19, respectively, where N-330® is present in an amount of 1.00 part. This is insufficient to support claim language with generic carbon black in any amount.

6. Claims 23 and 24 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 23 and 24, the further comprising of carbon black in the insulation material it outside the scope of independent claims 7 and 14 given that these independent claims recite closed claim language “consisting of.”

Claim Rejections - 35 USC § 103

7. Claims 7, 14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring '841 (US 4,501,841) in view of Trask et al (US 4,726,987) and Guillot et al (WO 00/43445).

Herring '841 discloses elastomeric insulating materials for rocket motors (col. 2, lines 35-37) comprising crosslinkable elastomeric polymers such as EPDM (col. 3, lines 28-32); polyaramide pulp, i.e., polymeric organic filler, which is used to advantageously promote the formation of a strong, adherent char during propellant burning (col. 2, lines 38-48); organic and inorganic flame retardants (col. 4, lines 1-14); and a peroxy crosslinking agent (see Table C in col. 5). Method of insulating rocket motors is provided in col. 6, lines 33-58. While Herring '841 does not teach cure accelerator or cure activator, it is considered that these additives are quite common in crosslinking and would be suitably utilized by one of ordinary skill in the art.

Herring '841 fails to disclose (a) the presently claimed organic filler, (b) sulfur, and (c) the use of an antioxidant, a cure accelerator, a cure activator, a tackifier, or a plasticizer in a rocket motor insulation composition.

With respect to the organic fillers (a), Herring '841 does not explicitly disclose any other polymeric filler as a char-former but it does not exclude the substitution or the additional use of other similar materials.

Trask et al discloses a fire-retardant article and teaches about the benefits of a variety of polymeric fibers for use in fire-retardant articles. In particular, Trask et al teaches that aramid fibers like utilized by Herring '841 are advantageous for char formations that act as a thermal barrier (col. 2, lines 19-22) and that polyphenylene sulfide is also a char former with outstanding

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chemical resistance, thermal stability, and fire resistance like the polyimides (col. 2, line 61 to col. 3, line 2) and that halogenated polymers like polyvinylchloride are advantageous in fire-retardant applications due to its two-stage degradative process (col. 3, lines 18-28).

Given that polyphenylene sulfide and polyvinylchloride are advantageously used with or as substitutes for a char-former such as polyaramide fibers as taught by Trask et al, it would have been obvious to one of ordinary skill in the art to utilize a polyphenylene sulfide or polyvinylchloride as a char-former in the rocket motor insulation of Herring '841. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

With respect to sulfur (b), Herring '841 does not disclose the use of a sulfur curing system, however, it teaches peroxy crosslinking agent.

Guillot et al discloses an insulation material for rocket motors comprising EPDM and teaches that there are two classes of curing systems which are suitable, i.e., sulfur- and peroxide-based curing systems (page 40, lines 10-12).

Given that Herring '841 discloses the use of a peroxide-based curing system and further given that Guillot teaches that the use of sulfur- and peroxide-based curing systems are used interchangeably in insulation material for rocket motors, it would have been obvious to one of ordinary skill in the art to substitute peroxide with sulfur in the composition of Herring '841. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the

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prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

With respect to the use of an antioxidant, a cure accelerator, a cure activator, a tackifier, or a plasticizer (c), Herring '841 does not teach the use of an antioxidant, a cure accelerator, or a plasticizer in a rocket motor insulation composition.

Guillot et al discloses an insulation material for rocket motors comprising EPDM and teaches that antidegradants, tackifiers (page 16, lines 21-22), plasticizers, and organic accelerators are suitable additives in rocket motor insulation materials that are used as desired (page 40, lines 7-12).

Given that Guillot et al discloses the suitability and desirability of tackifiers, plasticizers, accelerators, and antioxidants in rocket motor insulation compositions, it would have been obvious to one of ordinary skill in the art to utilize any of these enhancement-providing additives to the rocket motor insulation composition of Herring '841. Case law holds that the selection of a known material based on its suitability for its intended use supports *prima facie* obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045).

8. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring '841 (US 4,501,841) in view of Trask et al (US 4,726,987), Guillot et al (WO 00/43445), and Graham et al (US 5,821,284).

The discussion with respect to Herring '841, Trask et al, and Guillot et al in paragraph 7 above is incorporated here by reference.

Herring '841 discloses the use of hydrated silica as a filler in amounts of 10-30 wt % (col. 3, lines 53-67; col. 5, line 22), however, it does not disclose carbon black.

Graham et al discloses an insulation material for rocket motors comprising EPDM and teaches that 18-20 wt % hydrated silica or ½ wt % carbon black is used as a filler (col. 8, lines 3-4).

Given that Herring '841 teaches the use of hydrated silica and further given that Graham et al teaches that the use of hydrated silica and carbon black are used interchangeably in insulation material for rocket motors, it would have been obvious to one of ordinary skill in the art to substitute silica for carbon black in the composition of Herring '841. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

Response to Arguments

Applicant's arguments filed 6/12/2007 have been fully considered but they are not persuasive. Specifically, applicant argues (A) that the use of generic term "carbon black" is not new matter given that the examples contain N-330®, a type of carbon black; (B) that Herring '841 requires the use of inorganic particulates which is excluded by present claim language "consisting of"; (C) that Trask cannot be used to teach in the presently claimed organic fillers because the those fillers are fused into a textile panel; (D) that Trask does not teach that polyphenylene sulfide and polyvinyl chloride are char formers; (E)

With respect to argument (A), the use of generic term “carbon black” is new matter because the specification only provides support for one type of carbon black. In the specification as originally filed, the only reference to carbon black N-330® is in Tables 1 and 8 on pages 10 and 19, respectively, where N-330® is present in an amount of 1.00 part. This is insufficient to support claim language with generic carbon black (which includes any type of carbon black such as acetylene, channel, and furnace) in any amount.

With respect to argument (B), in col. 3, lines 62-63 of Herring ‘841, it states that “[i]norganic reinforcing particulates *can* be included in the elastomeric insulating materials of the invention” (emphasis added). The term “can” suggests that the inorganic reinforcing particulates are optional. Case law holds that it is perfectly proper for the examiner to look to the whole reference for what it teaches rather than merely rely on preferred embodiments. *In re Courtright* 153 USPQ 735 (CCPA 1967).

With respect to argument (C), while Trask does not disclose all the features of the present claimed invention, it is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, and in combination with the primary reference, discloses the presently claimed invention.

With respect to argument (D), see col. 2, lines 61-67, where Trask teaches that polyphenylene sulfide is a char former. Regarding polyvinyl chloride, the examiner agrees that Trask does not teach it as a char former, however, Trask teaches that polyvinyl chloride is a very usefull filler in flame retardaed materials.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/22/07

Vickey Ronesi



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